



LAND USE CONTROL IMPLEMENTATION PLAN



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION KENNEDY SPACE CENTER BREVARD COUNTY, FLORIDA

FACILITY: Shuttle Flight Operations Contract (SFOC) Generator Maintenance Facility
Solid Waste Management Unit No. 81

CONTAMINANTS: Antimony in Groundwater
PAHs, Copper, TPH and Arsenic in Soil

CONTROL: Prohibit Groundwater Consumption and Residential Exposure to Surface Soil

PURPOSE OF LAND USE CONTROL IMPLEMENTATION PLAN

This Land Use Control Implementation Plan (LUCIP) has been prepared to inform current and potential future users of the SFOC Generator Maintenance Facility (GMF) of institutional controls that have been implemented at the site¹. Due to unacceptable risks to human health associated with the SFOC GMF, institutional controls (LUCs) are necessary to: (i) prohibit the use of groundwater from the site; and (ii) prohibit residential use of the site. Controls will include periodic inspection, condition certification and agency notification.

WHY LAND USE CONTROLS ARE NEEDED

Human health and ecological risk assessments were completed as part of a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI). Chemicals of concern identified for human health risk during the RFI that exceeded Florida Department of Environmental Protection (FDEP) and United States Environmental Protection Agency (EPA)

cleanup target levels were copper, arsenic, benzo(a)pyrene (BAP), dibenzo(a,h)anthracene (DBANTH), and total petroleum hydrocarbons (TPH) in soil/swale soil and antimony in groundwater. No viable ecological habitat exists at the site.

SITE DESCRIPTION

The SFOC GMF was constructed in 1988 to be utilized as the main generator maintenance shop and storage facility for the SFOC at KSC. The facility was designed to accommodate maintenance and storage operations for portable generators and portable above ground diesel fuel storage tanks. The SFOC GMF is currently operated by United Space Alliance (USA). The facility has formerly been referred as the Shuttle Processing Contract (SPC) Generator Shop, the Launch Support Operations Contract (LSOC) Generator Shop and the Lockheed Generator Shop.

SITE LOCATION

The GMF is located east of Contractor's Road, just north of the Contractor's Road Heavy Equipment Area (CRHEA) and

1. This LUCIP summarizes institutional controls regarding the NASA SFOC Generator Maintenance Facility. For detailed information on the site, consult the SFOC Generator Maintenance Facility administrative file, which is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

Contractors Road Railroad Maintenance Facility, K6-1844, in the Launch Complex 39 (LC 39) area of KSC (Figure 1). The GMF site is located in Section 18, Township 22S and Range 37E, Orsino Topographic Quadrangle (USGS 1976).

SITE CONTAMINATION AND CONTROL

Groundwater at the site contains antimony above FDEP's groundwater cleanup target levels (GCTLs). Copper, BAP, DBANTH, arsenic and TPH were detected in soil and swale soil at concentrations exceeding residential Soil Cleanup Target Levels (SCTLs). However, the soil will be left in place as human exposure is minimized by infrequent use of the site. The current and projected future land use of the SFOC GMF is industrial in nature. LUCs are therefore required to prohibit the use of groundwater at the site and prohibit residential use and exposure to soils.

DECISION DOCUMENT

A Statement of Basis (SB) establishes institutional controls as a component of the remedy for the site. The SB for the site, KSC document number KSC-TA-7328, is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

IMPLEMENTATION

Institutional controls will be implemented by the KSC Environmental Program Office in accordance with their RCRA permit and a Land Use Control Assurance Plan included in a Memorandum of Agreement (MOA)² between NASA, FDEP, and EPA, effective February 23, 2001. Upon approval of this LUCIP, it will be incorporated into the permit by reference. Property transfer (if conducted in the future) will be conducted in accordance with Section X of the MOA.

KSC's Environmental Program Office will provide KSC's Master Planning Office with survey coordinates of the LUCs. Restrictions will specify limitations on development and reuse for the area for as long as LUCs are necessary to protect human health and the environment.

MONITORING

Quarterly inspections to monitor that the institutional controls specified herein are in place and operating will be conducted by KSC's Environmental Program Office. The inspection will verify that no residential or groundwater use is occurring.

2. *By separate MOA effective February 23, 2001, with the EPA and FDEP, KSC, on behalf of NASA, agreed to implement Center-wide, certain periodic site inspection, condition certification and agency notification procedures designed to ensure the maintenance by Center personnel of any site-specific LUCs deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the Center's substantial good faith compliance with the procedures called for herein, reasonable assurances would be provided to EPA and FDEP as to the permanency of those remedies which included the use of specific LUCs.*

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by NASA KSC, EPA and FDEP that the contemplated permanence of the remedy reflected herein shall be dependent upon the Center's substantial good faith compliance with the specific LUC maintenance commitments reflected herein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred in may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment

REPORTING

KSC's Environmental Program Office will submit annual reports to EPA and FDEP certifying retention of the implemented LUCs.

ENFORCEMENT

KSC's Environmental Program Office will be responsible for stopping any activities at KSC that are not compliant with this LUCIP.

MAINTENANCE

The LUCIP shall remain in place until a land use change is implemented and the concerns managed by the LUCIP are mitigated; or there is a discovery, based upon analytical evidence, that scenarios managed by the LUCIP are no longer a concern. Any change in LUC management must be approved by the EPA and FDEP and implemented by modification of NASA's operating permit.

Figure 1
SFOC Generator
Maintenance Facility
SWMU 81

Site

Indian
River

Mosquito Lagoon

Atlantic Ocean

SR 3

NASA
CSWY

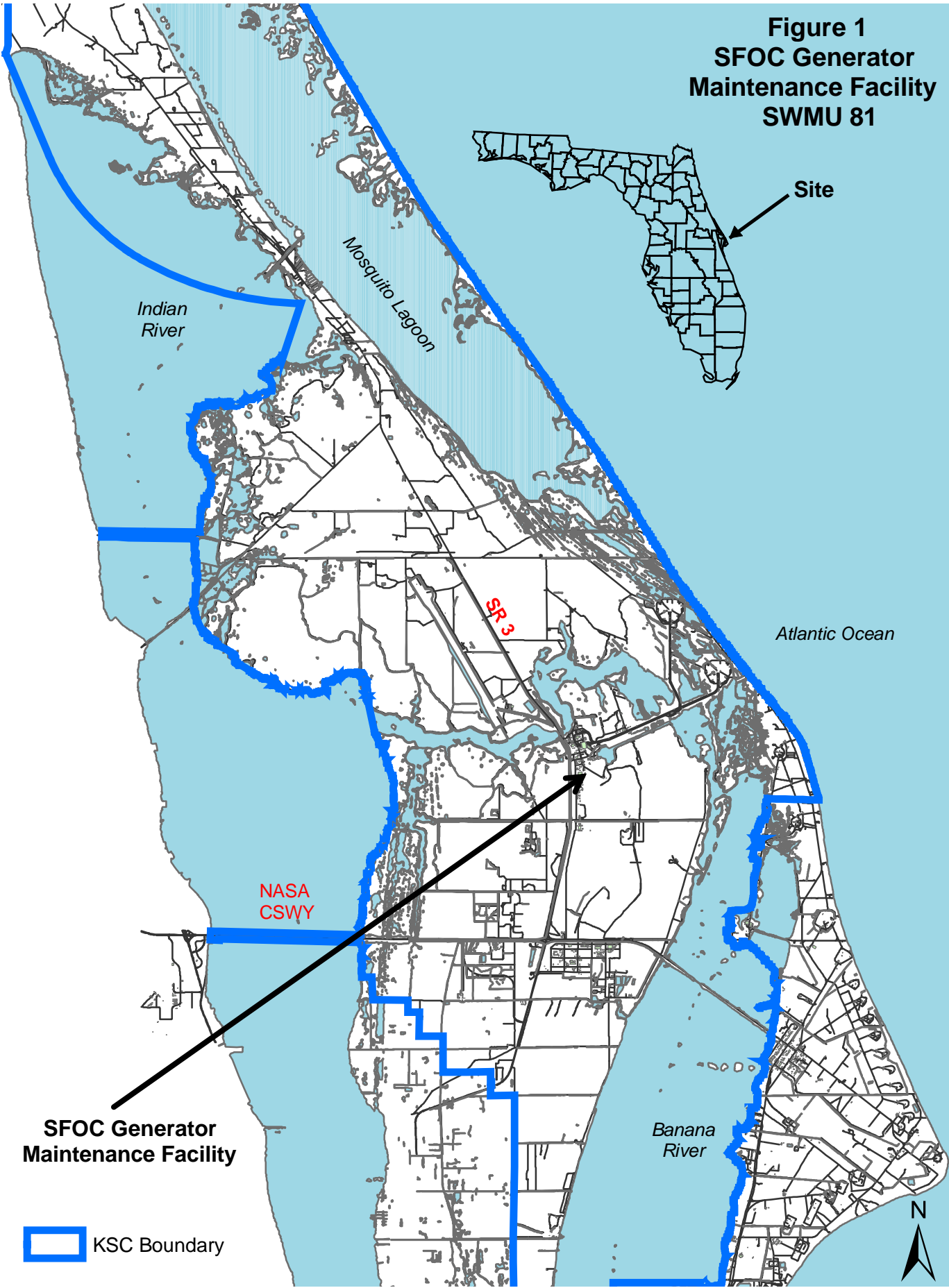
Banana
River

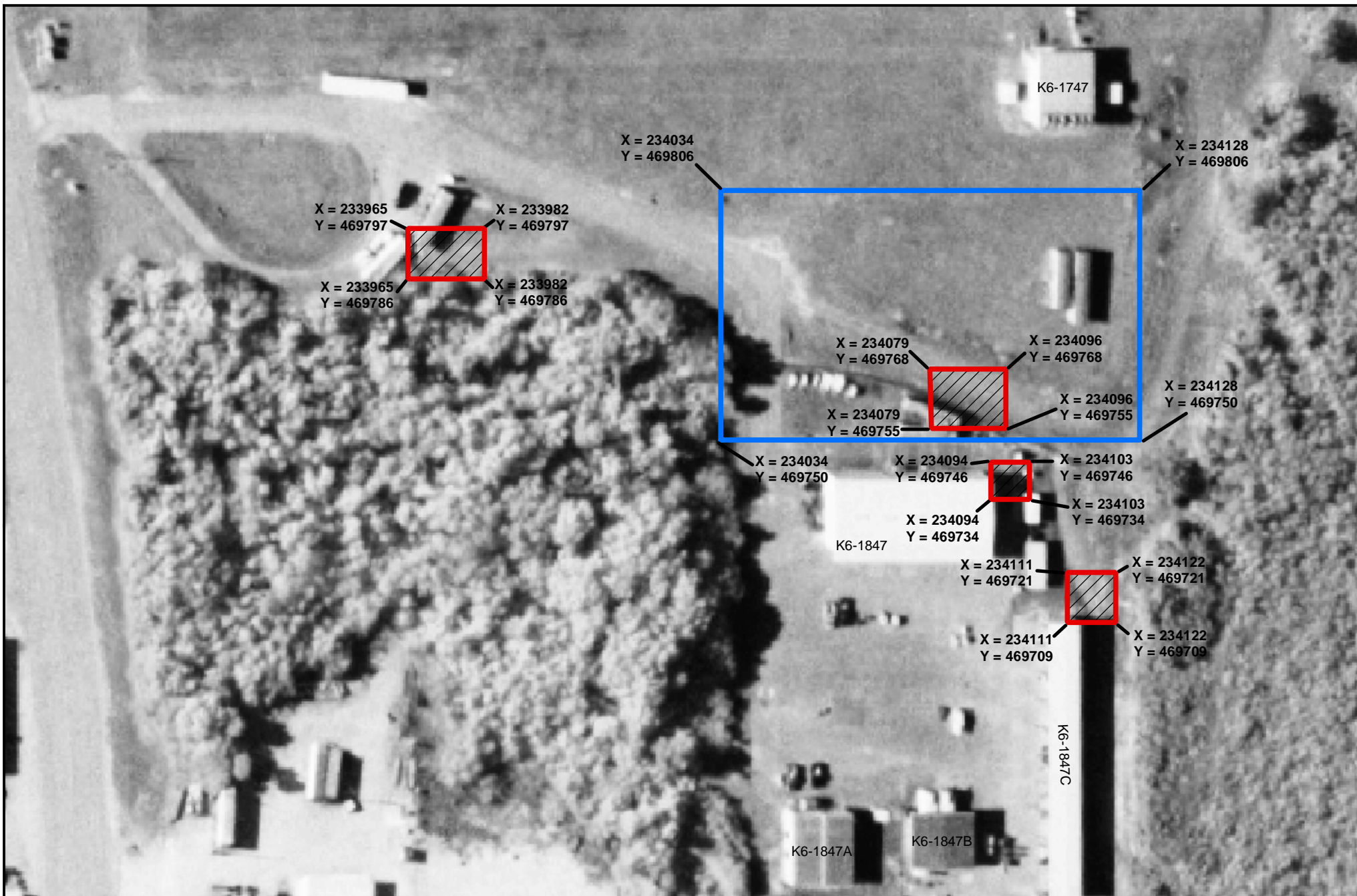
SFOC Generator
Maintenance Facility

 KSC Boundary



10,000 0 10,000 20,000
Feet



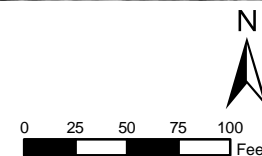


Area Covered by Statement of Basis and
Groundwater Use Control Area.



Area Covered by Statement of Basis and
Soil Use Control Area

Figure 2
Site Map
SFOC Generator Maintenance Facility
SWMU 81



Survey coordinates are in State Plane Coordinate
System, NAD 1983 meters, Florida East.